



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Mannava, et al.)
Serial No: 08/719,341) Group Art Unit: 3622
Filed: September 25, 1996) Examiner: C. Verdier
For: LASER SHOCK PEENED GAS TURBINE)
ENGINE COMPRESSOR AIRFOIL EDGES)

Commissioner of Patents and Trademarks
Washington, D.C. 20231

DECLARATION UNDER 37 C.F.R. 1.131(b)

Dear Sir:

Seetharamaiah Mannava, one of the applicants in the above-identified patent application, declare as follows:

1. That sometime prior to January 17, 1995, Seetharamaiah Mannava, James E. Rhoda, Herbert Halila, Larry G. Jacobs, and Edward A. Rainous, at the time engineers at General Electric Aircraft Engines in Cincinnati Ohio, conceived of a gas turbine engine compressor airfoil having at least one laser shock peened surface along the leading and/or trailing edges of the airfoil and a region of deep compressive residual stresses imparted by laser shock peening (LSP) extending from the laser shock peened surface into the airfoil, and preferably, the airfoil has laser shock peened surfaces on both suction and pressure sides of the airfoil wherein both sides were simultaneously laser shock peened.
2. That Seetharamaiah Mannava managed a test conducted by Battelle Labs and Wagner Laser Technologies as evidenced by a copy of pages from a Final Report by Battelle Labs dated January 27, 1993, Exhibit A1 attached hereto. The testing was done on high pressure compressor (HPC) stage 3 blades for an LM5000 gas turbine engine. A copy of a FIG. 1 dated 1/18/1994 of a doe report is attached as Exhibit B1 and proves that the invention was tested and reduced to practice by these tests.

The declarant further states that the above statements were made with the knowledge that willful false statements and the like are punishable by fine and/or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that any such willful false statement may jeopardize the validity of this application or any patent resulting therefrom.

Date: 10/7/98

Seetharamaiah Mannava
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